

*Observations and Elements of Comet II., 1862.*

By J. Tebbutt, Esq.

Mr. Tebbutt, in a letter dated Windsor, New South Wales, October 20th, 1862, writes:—

“I herewith enclose my latest observations of a large Comet which suddenly made its appearance here on the evening of the 1st September. The observations were made with a telescope of  $3\frac{1}{4}$  inches clear aperture, and 4 feet focal length, provided with a ring micrometer diameter 20' 50". They are not so accurate as I could wish, owing to the faint and diffused light of the comet during the present month; they will, however, prove useful in the event of the comet not being more accurately observed elsewhere. The Rev. W. Scott resigned some time since his appointment as Director of the Sydney Observatory, but some observations have been made of the Comet by his assistant. I believe, however, they are not in a state to be forwarded to Europe by this opportunity. The physical changes of the Comet during the early part of September were very remarkable, for a brief notice of which I beg to refer you to a paper read by me before the Philosophical Society of this colony on the 8th instant. The paper is published in the *Sydney Morning Herald* of the 9th instant, a copy of which I forward with this letter. I have deduced the following elements from observations extending from the 1st September to the 15th instant.

Perihelion passage, 1862, August 23<sup>d</sup> 13<sup>h</sup> 40<sup>m</sup> Greenwich Mean Time.

Perihelion distance 0.96290

Distance of perihelion from  
ascending node in the } 152° 49' 48"  
direction of motion }

Longitude of ascending node 137° 13' 36" Mean Eq. of 1 Jan. 1862

Inclination of orbit 66° 9' 36"

Motion retrograde.

The most remarkable feature of the Comet's orbit is its near approach to the Earth's path at the descending node; according to my calculations the distance between the two orbits at that point is only half a million of miles. This Comet cannot be identical with that discovered by M. Tempel at Marseilles on the 2d July.

	Greenwich. Mean Time.	Star of Comparison.	Comet — Star.	
			R.A.	N.P.D.
1862.	h m s		m s	' "
Sept. 19	21 49 48	B.A.C. 5538	— 8 34.2	— 3 4
	22 13 7	„ „	— 8 33.4	— 1 57
	22 37 29	„ „	— 8 32.4	— 0 55

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1862.	Greenwich Mean Time.			Star of Comparison.	Comet — Star.	
	h	m	s		R.A. m s	N.P.D. ' "
Sept. 25	23	27	28	B.A.C. 5593	- 11 16.1	- 11 43
26	0	7	2	" "	- 11 12.6	- 11 20
	22	5	51	" 5583	- 9 30.3	+ 9 6
	"	"	"	" 5584	- 9 38.3	+ 9 26
	22	21	15	" 5583	- 9 30.4	+ 9 18
	"	"	"	" 5584	- 9 38.6	+ 9 29
Oct. 3	21	59	27	Brisbane 5754	+ 5 1.3	
	"	"	"	" 5799	- 1 37.3	
	22	6	10	" "	- 1 36.5	- 3 16
	22	18	17	" 5754	+ 5 3.7	+ 5 58
9	21	47	59	a	+ 0 26.6	+ 12 22
	"	"	"	b	- 2 11.6	+ 15 4
	21	54	41	a	+ 0 26.5	+ 12 14
	"	"	"	b	- 2 11.6	+ 15 3
	22	7	33	a	+ 0 27.1	+ 12 21
	"	"	"	b	- 2 11.4	+ 15 10
	22	15	3	a	+ 0 26.1	+ 12 47
	22	19	30	a	+ 0 25.6	+ 12 45
	22	23	46	a	+ 0 26.6	+ 12 36
	22	29	45	a	+ 0 25.8	+ 12 38
	22	34	37	a	+ 0 24.6	+ 12 42
					<i>a</i> — B.A.C. 5472	
					+ 17 36.7	+ 8 3
					<i>b</i> — B.A.C. 5472	
					+ 20 14.1	+ 5 11
12	21	40	32	Lacaille 6907	+ 7 8.2	
	"	"	"	B.A.C. 5558	+ 6 32.3	
	21	52	10	Lacaille 6907	+ 7 10.7	+ 11 40
	"	"	"	B.A.C. 5558	+ 6 35.2	+ 11 7
14	21	19	20	" 5561	+ 8 2.6	- 2 7
	"	"	"	c	- 0 47.1	+ 16 25
	21	32	38	B.A.C. 5561	+ 8 4.0	- 2 31
	21	45	2	" "	+ 8 5.3	
	21	56	40	" "	+ 8 2.8	- 1 49
	"	"	"	c	- 0 48.6	+ 16 42
	22	9	37	B.A.C. 5561	+ 8 5.8	- 1 49
	"	"	"	c	- 0 44.1	+ 16 42
					<i>c</i> — B.A.C. 5561	
					+ 8 50.4	- 18 31
					<i>c</i> — Brisbane 5850	
					- 1 23.0	+ 11 1

Long. of place of observation 10<sup>h</sup> 3<sup>m</sup> 42<sup>s</sup> East of Greenwich  
Lat. of place of observation 33° 36' 30" South

Remarks.

Where the difference of N.P.D. is not given it is to be understood that one of the objects crossed the ring near its centre. The stars *a*, *b*, are of the 7 mag., and *c* of the 7·8 mag. B.A.C. 5558 is double; the following star was employed in the comparisons of the 13th October. The following are the mean places of B.A.C. 5538 and 5583 from observations made at the Sydney Observatory.

B.A.C. 5538, January 1, 1859, R.A. 16<sup>h</sup> 27<sup>m</sup> 6<sup>s</sup>·44, N.P.D. 124° 57' 39"·4 from six observations in 1859.  
B.A.C. 5583, January 1, 1860, R.A. 16<sup>h</sup> 34<sup>m</sup> 3<sup>s</sup>·41, N.P.D. 130° 50' 49"·6 from one observation in 1860.

Places of Comet II. 1862, observed at Armagh.  
By N. M'N. Edmondson, Assistant at the Observatory.

(Communicated by Dr. Robinson.)

1862.	Greenwich M.T.			R.A.			N.P.D.		
	h	m	s	h	m	s	°	'	"
Aug. 27	11	6	36·49	15	26	18·27 + $\pi \times 0\cdot05596$	43	41	54·28 - $\pi \times 0\cdot52008$
28	9	16	17·63	15	31	41·87	48	52	52·70
29	9	4	21·21	15	36	46·30	54	41	45·17
31	9	32	36·89	15	45	8·31	66	38	39·70
Sept. 1	8	52	44·77	15	48	33·28	72	14	58·45
7	8	44	41·06	16	3	10·20	99	50	47·09
8	8	36	46·11	16	4	52·93	103	7	5·87
9	8	32	25·68	16	6	59·92 + $\pi \times 0\cdot03019$	105	57	15·46 - $\pi \times 0\cdot88794$

	Comparison Stars.	Comparisons.	Assumed Places.
Aug. 27	Lalande 28208	5	Lalande.
28	52 Boötis	5	Armagh Catalogue.
29	P. xv. 148	6	R.A. from P., N.P.D. from Armagh.
31	Lalande 28875	4	Lalande.
Sept. 1	P. xv. 203	6	R.A. from Armagh, N.P.D. from P.
7	15 Scorpii	5	Ditto ditto B.A.C.
8	Lalande 29671	5	Lalande.
9	Argelander Zone 297, No. 76*	6	Argelander.

\* I am indebted to Mr. Ridings, of Markree, for the name and places of this star. Its identity with the comparison star seems doubtful. The comet preceded the star in R.A. 4<sup>s</sup>·25, and was north of it 5' 42"·08.